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ABSTRACT

This study determined the effect of using mailing labels prepared by a letter-quality computer printer on survey response rate. D. A. Dillman's personalization approach to conducting mail surveys suggests that envelopes with addresses typed directly on them may produce a higher response rate than envelopes with addresses typed on self-adhesive labels. Two surveys were sent to the same 340 graduates of teacher preparation programs from one public university. In the first survey half of the graduates received up to three mailings in white No. 10 envelopes with addresses typed directly on them, while the other half received envelopes with addresses typed on self-adhesive mailing labels. The questionnaire contained four multiple choice items. Response rates were 80 percent and 78 percent respectively. In the second survey the same procedures were used, with half of each group from the first survey receiving the two types of envelopes. The questionnaire was longer and more complicated, and manila, instead of white No. 10, envelopes were used. The response rates were 63 percent for directly typed addresses and 65 percent for addresses on mailing labels. Results indicate letter-quality computer printers can be used to prepare address labels for surveys of an interested population without significantly reducing response rate. (Author/DWH)

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Effect of Mailing Address Style on Survey Response Rate

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Abstract

The purpose of this study was to determine the effect of using mailing labels prepared by a letter-quality computer printer on survey response rate. Dillman's (1978) personalization approach to conducting mail surveys suggests that envelopes with addresses typed directly on them may produce a higher response rate than envelopes with addresses typed on self-adhesive labels. The empirical data in the literature, however, is ambiguous. Two surveys, approximately five months apart, were sent to the same 340 graduates of teacher preparation programs from one public university. In the first survey half of the graduates received up to three mailings in white #10 envelopes with addresses typed directly on them, while the other half received envelopes with addresses typed on self-adhesive mailing labels. The questionnaire contained only four multiple choice items. The response rates were 89% and 78%, respectively. The difference was not statistically significant ($p > .30$, one-tailed test). In the second survey the same procedures were used, with half of each group from the first survey receiving the two types of envelopes. The questionnaire was much longer and more complicated, and manila envelopes were used instead of white #10 envelopes. The response rates were 63% for directly typed addresses and 65% for addresses on mailing labels. The difference was not statistically significant ($p > .65$, one-tailed test). It is concluded that letter-quality computer printers can be used to prepare address labels for surveys of an interested population without significantly reducing response rate.

Effect of Mailing Address Style on Survey Response Rate

The purpose of the two experiments in this study was to determine the effect of using mailing labels prepared by a letter-quality computer printer on response rate in a mail survey. The study was designed after a review of pertinent literature revealed very little hard empirical evidence for cautions given about possible negative effects of using a computer.

Dillman (1978) has developed an effective approach to survey design based upon making contact with a potential respondent as personal as possible with two qualifications. Personalization should be done in a manner consistent with one person in business efficiently corresponding with another unfamiliar person in business about an important matter. Personalization also must be done within the practical constraints of the survey effort. The basic aim of personalization is to have the potential respondent believe that he or she is receiving individual attention from the investigator.

Efficient business practices today include use of computers to process mailings in ways that appear to be personal. Dillman warns that the overall impression of personal interest in the potential respondent may be neutralized in various ways, including use of a mimeographed address label on the outer envelope. In a quantitative review of methodological studies, however, Heberlein & Baumgartner (1978) found no effect on return rate for personally typed recipient addresses on envelopes after controlling for number of contacts and saliency of the survey topic to the respondent.

Dillman also warns that as computer technology makes it possible to efficiently mass produce mailings that appear to be personalized, people may judge such efforts as insincere and be less likely to complete and return a survey form included in such a mailing. Today it is possible to prepare address labels by computer in the same type style as the body of an attractive letter. A question of interest to those who use mail surveys is whether use of such labels reduces response rate.

General reviews of pertinent literature have been published by Blumberg, Fuller & Hare (1974), Dillman (1978), Erdos (1970), Heberlein & Baumgartner (1978), Kanuk & Berenson (1975), Linsky (1975), and Scott (1961). Only four studies which included recipient address labels prepared by a computer are reviewed in this paper. Unfortunately, the recipient address factor was confounded with at least one other factor in three of those studies.

There is some ambiguity in the literature in the use of "response rate." In this paper the distinction made by Kviz (1977) between "response rate" and "completion rate" will be used. "Response rate" refers to the proportion of the eligible sample members who returned a questionnaire. "Completion rate" refers to the proportion of total sample members who returned a questionnaire. "Return rate" will be used as a generic term to mean either response rate or completion rate.

In a study of Dillman's approach conducted by Kahle and Sales (1978) three groups received an initial mailing, a post card reminder, a second mailing containing a replacement questionnaire and a certified mailing containing a replacement questionnaire. In the first group the first two mailings had first class postage, in the second group they had nonprofit bulk rate postage, and in the third group they had bulk rate

postage with addresses on preprinted labels. In groups one and two the recipient addresses were typed directly on the envelopes. In all other respects the outer envelopes were the same, and the materials inside the envelopes were equivalent. Group three had a completion rate of 52% in contrast to completion rates of 62% and 64% for groups one and two. The difference between group three and the other two groups is statistically significant ($p < .05$). Although postage did not affect return rate, use of preprinted address labels lowered it significantly. Kahle & Sales suggest that information about whether a letter is from a person or from a computer may be more important than the postage as a factor which influences return rate. Although this result and interpretation are consistent with a prediction based on Dillman's personalization approach, Kahle & Sales do not describe specific differences in appearance of the recipient addresses between the preprinted labels and the typed envelopes. Features such as [illegible] style or presence of coded information may be more directly related to perceived personalization rather than mere presence of a label.

Carpenter (1974-75), however, demonstrated that a computer can be used to prepare a mailing which appears to be highly personalized. Based on Dillman's approach, an initial mailing and three follow-up mailings were sent to four groups. For a control group, which was more than seven times as large as each of the other groups, the materials were prepared without the aid of a computer. The materials were personalized by using a personal salutation on a multilithed cover letter and by typing recipient addresses directly on the outer envelopes. This control group had a 71.3% response rate.

An experimental group received equivalent materials prepared by a letter-quality computer printer with the exception that each cover letter was typed by the computer. In comparison to the control group, this experimental group had a slightly higher response rate of 72.2%, but the difference is not statistically significant ($p > .05$). This result is consistent with predictions based on Dillman's approach. It is particularly of interest here because it demonstrates that the appearance of the product, not the devices used to prepare the product, should be related to the personalization hypothesis.

In Carpenter's study another experimental group received multilithed cover letters with a general salutation and recipient addresses on preprinted computer labels. Carpenter did not explicitly describe any differences in appearance between the recipient addresses on the labels and the ones typed directly on the envelopes. He used the qualifier "upper- and lower-case" in describing the computer uses for the other experimental groups, but he did not use it in the description of this group. It may be that the labels printed by a computer were in upper-case dot matrix style, which would appear much less personal. The response rate for this group was 64.3%, which is significantly different from the response rate for the control group ($p > .05$). This result is consistent with personalization predictions, but the recipient address factor is confounded with salutation style and cover letter style.

Erdos (1970) described the methodological results in a survey conducted by Van Doren (1968) for the American Bankers Association. (Van Doren did not report the methodological results.) Approximately 13,400 banks received an initial mailing and one follow-up mailing. The research design can be described as an unbalanced incomplete block

design with unequal cell sizes. Five factors were included in the design: recipient address style (computer label vs. typed envelope), length of questionnaire, return envelope postage, anonymity, and cover letter style. The recipient address style factor was confounded with return envelope postage and cover letter style. The groups who received outer envelopes with computer labels also received return envelopes with no postage and a general cover letter. The groups who received outer envelopes with typed addresses received return envelopes with postage and personal cover letters. The lower return rate for label groups, 68.6% vs. 72.0%, could be the result of either of these other two factors or some interaction among them. In any case the difference between the two levels of the recipient address factor is small.

Eisenger, Janicki, Stevenson & Thompson (1974) reported results for two mail surveys conducted in Africa. Three factors were included in the design: recipient address style (computer label vs. typed on envelope), registered vs. nonregistered mail, and cover letter style. Recipient address style was confounded with cover letter style; the authors referred to this as the personalization factor. All persons receiving an envelope with a typed address label also received a typed signed cover letter. All of those receiving an envelope with a computer address label received a mimeographed unsigned cover letter. The article does not include the frequency of returns for each group, so it is not possible to estimate the effect size for the personalization factor. The authors stated that it did not produce a significant main effect in either study, but in one study the difference in return rates of 10% was significant with the effects of registration removed.

Although the empirical evidence contains various ambiguities, it seems to support predictions based on Dillman's personalization approach. The research hypothesis for the two experiments in this study is that the response rate for those receiving survey materials in an envelope with name and address typed directly on it will be greater than the response rate for those receiving the materials in an envelope with a mailing address label.

Experiment 1

Method

Subjects. A total of 340 graduates from initial teacher preparation programs for one year (three consecutive semesters) were mailed a brief employment questionnaire. This included all such graduates from undergraduate programs at one public university in elementary or secondary education for both regular and specialist certification areas. The initial mailing occurred approximately three months after the most recent graduation date and almost twelve months after the earliest graduate date. Responses were received from 267 graduates, while four questionnaires were returned marked not forwardable. Thus, the overall completion rate was 78% and the overall response rate was 79% of the deliverable questionnaires.

Several checks were made for response bias. Seventy-five percent of the graduates were female and 75% of the respondents were female. There was no evidence of gender bias in the returns.

The percents of total graduates for each semester, from earliest to most recent date, were 39%, 47% and 14%. The corresponding percents of respondents for each semester were 37%, 48% and 15%, respectively. Although there was a slight tendency for more recent graduates to

respond, there was no reliable evidence of graduation date bias in the returns (chi-square = 2.91, $p > .20$).

The percents of graduates for elementary, secondary and specialist (art, music, physical education) areas were 52%, 26% and 22%. The corresponding percents of respondents for the three certification areas were 53%, 27% and 20%. Although there was a slight tendency for proportionally fewer specialist area graduates to respond, there was no reliable evidence that certification area bias was present in the returns (chi-square = 3.91, $p > .10$).

Apparatus and materials. An IBM Displaywriter computer with a prestige elite print wheel was used to type the cover letters individually with names and addresses included. Each cover letter was signed individually by the investigator. The same computer was used to type names and addresses directly on the outer envelope for each mailing, or to type names and addresses on plain white 3½" by 1" self-adhesive labels which were then placed on the outer envelopes. For all mailings white #10 envelopes were used.

The questionnaire contained four items on employment status which could be completed in less than a minute. The cover letter explained the purpose of the survey, described how confidentiality would be maintained, and offered to send a summary of results if so requested. A postage paid addressed return envelope was included with the questionnaire.

Procedure. The graduates were divided at random into two groups of 170 persons each. For one group the materials for each mailing were placed in an envelope with each graduate's name and address typed on a

self-adhesive mailing label. For the other group each graduate's name and address was typed directly on the envelope for each mailing.

One week after the initial mailing a reminder letter was sent to all graduates. Two weeks after the reminder letter had been sent, a mailing similar to the initial mailing was sent to every graduate who had not returned a questionnaire. (Graduates were excluded if the postal service had returned materials marked not forwardable.)

Results and Discussion

The response rates for the two groups were 78% for the mailing label group and 80% for the typed envelope group. Although the difference between the two rates is in the predicted direction, the difference is not statistically significant for a one-tailed test (z = .40, p>.30).

Table 1 shows the percents of returned questionnaires which were returned after each mailing. The typed envelope group returned more questionnaires after the reminder letter than the mailing label group, but the mailing label group essentially made up the difference after the replacement mailing. The difference between the two distributions is not statistically significant (chi-square = 2.53, $p > .20$).

This survey was conducted under conditions which produce high return rates. In this situation the use of an address label did not reduce response rate significantly. In a second experiment the same research hypothesis was tested under less favorable conditions.

Experiment 2

Method

This experiment replicated Experiment 1 with a longer and more complicated questionnaire, and a less desirable outer envelope.

Subjects. The same graduates were surveyed again, with the initial mailing being sent approximately five months after the initial mailing in Experiment 1. Each of the two groups in Experiment 1 was divided in half at random to form a mailing label group and a typed envelope group of 170 persons each. Responses were received from 211 graduates, while 11 questionnaires were returned as not forwardable. This represents an overall completion rate of 62% and an overall response rate of 64%.

No reliable evidence for gender bias (76% female), graduation date bias (34% December 1981, 51% May 1983, 14% August 1983; chi-square = 5.66, $p > .05$), or certification area bias (52% elementary, 28% secondary, 20% specialist; chi-square = 2.59, $p > .20$) was found.

Apparatus and materials. The materials for each mailing were prepared in the same way that they were prepared in Experiment 1. The questionnaire in this survey contained four pages of items to obtain program evaluation information. It took much more time to complete it than the employment questionnaire used in Experiment 1. The mailings which included the questionnaire were done with 9½" by 6½" manila envelopes with the university's return address printed on them and the investigator's name and office number typed on them. The reminder letter was mailed in a white #10 envelope.

Procedure. The same procedure used in Experiment 1 was used in this experiment.

Results and Discussion

The response rate for the mailing label group was 65%, while the response rate for the typed envelope group was 63%. This difference, which is contrary to the research hypothesis, is not statistically significant for a one-tailed test ($z = -.39$, $p > .65$).

As shown in Table 1, the percents of returned questionnaires for each group which were returned after each mailing were the same.

It is concluded that use of preprinted address labels, other things being equal and with the use of effective survey techniques, does not reduce survey response rate for a population which is likely to be interested in completing the survey questionnaire. The implication is that administrative concerns, such as amount of time or cost required for each method of preparing outer envelopes, can be resolved without affecting response rate.

The appearance of the envelope which is sent to the potential respondent in a survey conveys messages which vary in business-like personalization. Pertinent envelope features include size, shape, color, quality, presence of text or graphics other than names and addresses, amount of postage, type of postage (metered vs. stamped), return address and recipient address. These features influence the potential respondent's initial perceptions of mailing sponsorship and the amount of effort required to deal with the contents inside the envelope. One major aim of the investigator is to avoid having the envelope be perceived as a piece of "junk" mail which may be discarded without seeing what the envelope contains. A second major aim is to have the envelope convey a message that something important is contained inside that will not be too time consuming to handle.

The most personal business-like envelope would be a good quality #10 envelope with metered or stamped first-class postage, no text or graphics which could be interpreted as an advertising or promotion effort, a sponsor's name and return address known and respected by the recipient and the recipient's name (surname last) and address typed

directly on the envelope. If the recipient address is typed in upper case letters only by a dot matrix printer, surname first, on a label that also includes a line of characters representing some sort of coded information, the appearance is much less personal. Further research is needed to determine which combination of features of the recipient address appears less personal to the extent that response rate is reduced significantly.

Table 1

Percents of Returned Questionnaires Which Were Returned After Each Mailing by Respondents With Computer Labels or Typed Envelopes

Group	Mailing		
	Initial	Reminder	Replacement
	Short questionnaire		
Computer labels	29	38	33
Typed envelopes	28	47	25
	Long questionnaire		
Computer labels	30	40	30
Typed envelopes	30	40	30

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